

**CERTIFICATE OF TRANSMISSION BY FACSIMILE (37CFR1.8)**

Docket No. IEN-10-5715-D1 (CA920010028US2)

Applicant(s): Boyaud et al.

Serial No.	Filing Date	Art Unit Group
<u>10/681,513</u>	<u>October 8, 2003</u>	<u>2811</u>

**TITLE:**

TRANSFER MOLDING OF INTEGRATED CIRCUIT PACKAGES

I hereby certify that this **REQUEST FOR CORRECTION OF A FILING RECEIPT  
AND SUPPORTING DOCUMENTS**  
*(Identify type of correspondence)*

are being facsimile transmitted to the United States Patent and Trademark Office

Fax. No. 703-746-9195 on February 4, 2004  
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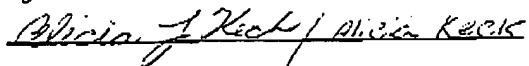
Alicia Keck

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CERTIFICATE OF MAILING

I hereby certify that this document is being deposited with the U.S. Postal Service, with sufficient postage, as first class mail in an envelope addressed to U.S. Patents and Trademarks Offices, Application Processing Division's Customer Correction Branch, Washington, D.C. 20231, on this 4 day of February, 2004.



## PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Boyaud et al.	)
		)
Serial No.:	10/681,513	) Art Unit 2811
		)
Filed:	October 8, 2003	)
		)
For:	<b>TRANSFER MOLDING OF INTEGRATED CIRCUIT PACKAGES</b>	)
		)

Attorney Docket No.: IEN-10-5163-D5 (EN9-92-080-XB)

ASSISTANT COMMISSIONER FOR PATENTS  
Office of Initial Patent Examination's  
Filing Receipts Corrections  
Alexandria, VA 22313-1450

REQUEST FOR CORRECTION OF A FILING RECEIPT

Sir:

Enclosed is a copy of the original Filing Receipt issued by the U.S. Patent Office for the above-identified Patent Application. Due to an inaccurate identification of the title for the subject application, it is requested that the Filing Receipt be revised as follows:

Change the title to read as follows:

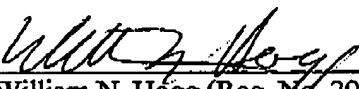
**TRANSFER MOLDING OF INTEGRATED CIRCUIT PACKAGES**

In support of this request, Applicants are also submitting a copy of the first page of the aforementioned application and a copy of the Declaration and Power of Attorney which was filed in the parent application. These documents show the correct title as it appeared in the original case and which should also be used in this divisional application.

It is believed that there are no additional fees for this correction; however if that is not the case, please charge any fees associated herewith to Deposit Account No. 09-0457.

Respectfully submitted,

Dated: 2-3-04

  
\_\_\_\_\_  
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Enclosures



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APPL. NO.	FILING OR 371 (C) DATE	ART UNIT	FIL. FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/681,513	10/08/2003	2811	770	CA920010028US2 (IEN-10-57)	4	17	3

CONFIRMATION NO. 9654

## FILING RECEIPT

000026681  
 DRIGGS, LUCAS BRUBAKER & HOGG CO. L.P.A.  
 DEPT. IEN  
 8522 EAST AVENUE  
 MENTOR, OH 44060



\*OC000000011605988\*

Date Mailed: 01/02/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

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## Assignment For Published Patent Application

International Business Machines Corporation, Armonk, NY;

## Domestic Priority data as claimed by applicant

This application is a DIV of 10/167,635 06/12/2002 PAT 6,656,773

## Foreign Applications

CANADA 2,350,747 06/15/2001

If Required, Foreign Filing License Granted: 01/02/2004

Projected Publication Date: 04/15/2004

Non-Publication Request: No

Early Publication Request: No

10N-10-5715-D1

DOCKETED	Patent Office Communication
Response Due Date	4/15/04
Additional Date/Subject for Docket	
SPECIFICATION OF DATES:	

Title *molding*  
Transfer holding of integrated circuit packages

## Preliminary Class

257

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Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

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**IMPROVED TRANSFER MOLDING OF INTEGRATED  
CIRCUIT PACKAGES**

**CROSS-REFERENCE TO RELATED APPLICATION**

This application is a divisional of application serial No.10/167,635, filed June 12,  
5 2002, now Patent No. \_\_\_\_\_.

**FIELD OF THE INVENTION**

This invention relates to an improved method of the use of transfer molding for  
encapsulating and underfilling integrated circuit chips attached to substrates to result in  
10 integrated circuit packages. It also relates to the mold and apparatus used in the  
improved method and the resultant integrated circuit assemblies.

**BACKGROUND OF THE INVENTION**

An integrated circuit chip assembly generally comprises an integrated circuit chip  
attached to a substrate, typically a chip carrier or a circuit board. The most commonly  
15 used integrated circuit chip is composed primarily of silicon having a coefficient of  
thermal expansion of about 2 to 4 ppm/<sup>o</sup> C. The chip carrier or circuit board is typically  
composed of either a ceramic material having a coefficient of thermal expansion of about  
6 ppm/<sup>o</sup> C., or an organic material, possibly reinforced with organic or inorganic particles  
20 or fibers, having a coefficient of thermal expansion in the range of about 6 to 50 ppm/<sup>o</sup> C.  
One technique well known in the art for interconnecting integrated circuit chips and  
substrates is flip chip bonding. In flip chip bonding, a pattern of solder balls is formed on  
the active surface of the integrated circuit chip, allowing complete or partial population of